

**CURRENT RESEARCH:**

- Virtual Reality Evaluations of Camouflage Effectiveness
- Cognitive Foundations of METT-T: How Spatial and Non-spatial Information Interact
- Cognitive Load of Walking over Complex and Dynamic Terrain
- Effects of Physical Exertion on Prefrontal-dependent Cognitive Tasks
- Stryker Dismount Local SA and Mobility (ATO-D)
- Predicting Dismount Performance under Physical and Environmental Stressors using Behavioral and Neural Indicators (ATO-R)



**COGNITIVE  
PERFORMANCE  
LABORATORY**



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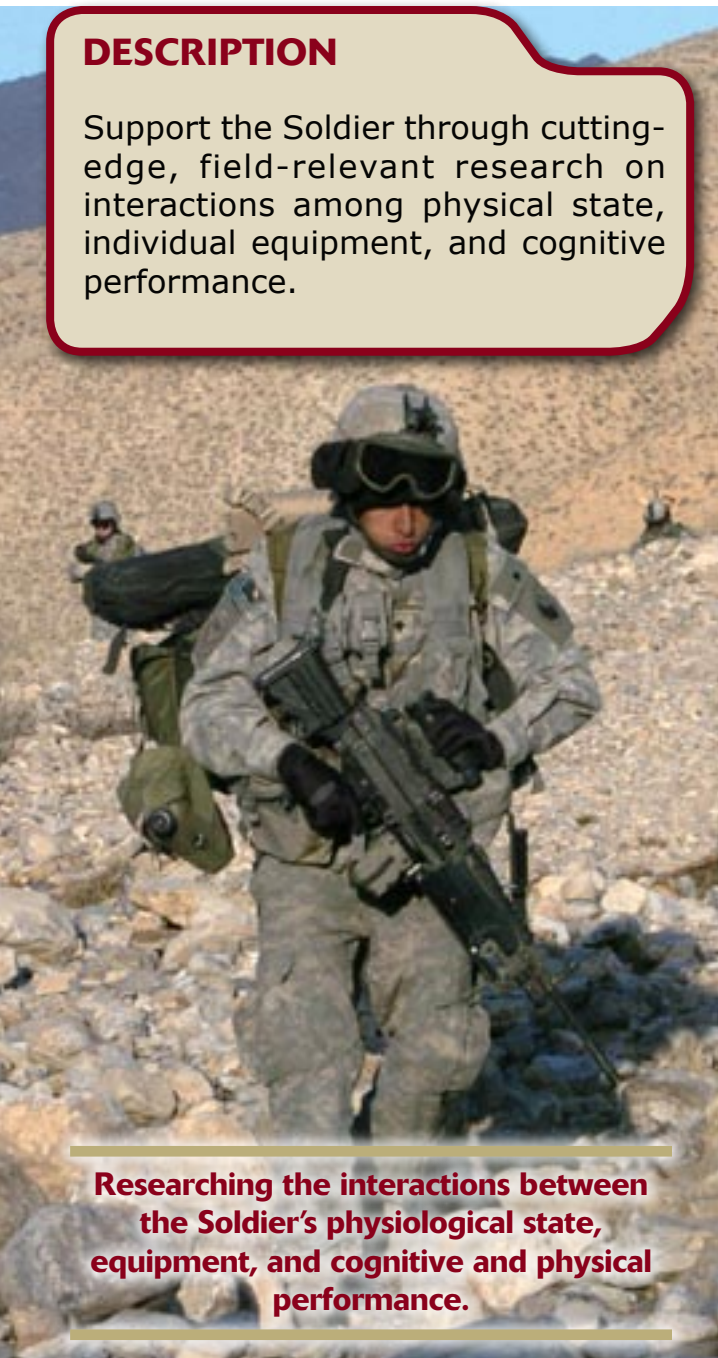




# COGNITIVE PERFORMANCE LABORATORY

## DESCRIPTION

Support the Soldier through cutting-edge, field-relevant research on interactions among physical state, individual equipment, and cognitive performance.



**Researching the interactions between the Soldier's physiological state, equipment, and cognitive and physical performance.**

## COGNITIVE SCIENCE TOOLS & CAPABILITIES

### Virtual Reality (N-CAVE):

- Full view (two 12ft W × 9ft H) projection displays
- Displays any environment (MOUT, mountains, desert), full surround sound
- User interface via wide area motion tracking with weapon simulation
- Locomotion interface via self-propelled treadmill synched with VR system

### Mobile Cognitive Assessment Platform (MoCAP):

- Head-mounted display, headset/mic, wrist keyboard, instrumented
- M4, GPS tracking in outdoor environments, ruggedized PDA, laptop computer carried in custom harness
- Subject-worn laptop and PDA synched w/ experimenter base station via wireless peer-to-peer and VoIP
- Physiological monitoring, gait analysis
- Custom software for experimental design and data acquisition
- Real-time eye tracking for indoor or outdoor use

## VIRTUAL REALITY (N-CAVE)



## MOBILE COGNITIVE ASSESSMENT PLATFORM (MoCAP)

